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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,707	08/20/2003	Bruce M. Warnes	MP167D1	8473

7590 04/27/2010

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EXAMINER	
AUSTIN, AARON	

ART UNIT	PAPER NUMBER
1784	

MAIL DATE	DELIVERY MODE
04/27/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/645,707	WARNES ET AL.	
	Examiner	Art Unit	
	AARON S. AUSTIN	1784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20,21,26 and 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20,21,26 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Please note that the listing of claims identifies claims 1-21 as being cancelled. As Applicant's intent in the Remarks appears to be that claims 20-21 and 26-27 are pending in the application, the identification of claims 1-21 as being cancelled is treated herein as being an inadvertent error intended to designate 1-19 as being cancelled.

Claim Rejections - 35 USC § 102 and 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 20-21 and 26-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Liburdi et al. (US 5,139,824).

Liburdi et al. teach an aluminide diffusion coating deposited by CVD (column 3, lines 61-66 and column 4, lines 7-11). The aluminide coating undergoes interdiffusion with transition metals including zirconium, yttrium, and hafnium alone and in combination (column 4, lines 12-42). During the interdiffusion step, the transition metals will progress from a coating region of the aluminide where the metals and the aluminide meet to a thorough distribution throughout the aluminide over time.

In the alternative, while Liburdi et al. disclose zirconium, yttrium, and hafnium alone and in combination, these transition metals are not specifically selected independently or in the Examples. However, the list of possible transition metals provided by Liburdi et al. is a finite list from which one of ordinary skill in the art is able to arrive at the claimed elements of zirconium, yttrium, and hafnium without excessive experimentation. As such, it would be obvious to one of ordinary skill in the art to select zirconium, yttrium, and hafnium under the teachings of Liburdi et al. and arrive at the claimed combination of zirconium, yttrium, and hafnium alone or in combination.

Regarding the product by process limitations, the product includes coating regions or the entire coating with a distribution of the reactive elements as set forth above. Use of co-deposition to form regions containing these same elements is considered indistinguishable from the taught product as both the taught process and

that claimed result in a thorough distribution of the elements throughout the coating or the regions where they are present.

The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Regarding claim 21, yttrium can be included as one of the transition metals interdiffused into the aluminide (column 4, lines 39-40).

Regarding claim 26, hafnium can be included as one of the transition metals interdiffused into the aluminide (column 4, line 40).

Regarding claim 27, zirconium can be included as one of the transition metals interdiffused into the aluminide (column 4, line 40).

Claims 20-21 and 26-27 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Liburdi et al. (US 5,292,594).

Liburdi et al. teach an aluminide diffusion coating deposited by CVD (column 3, lines 63-68 and column 4, lines 9-13). The aluminide coating undergoes interdiffusion with transition metals including zirconium, yttrium, and hafnium alone and in combination (column 4, lines 14-44). During the interdiffusion step, the transition metals will progress from a coating region of the aluminide where the metals and the aluminide meet to a thorough distribution throughout the aluminide over time.

In the alternative, while Liburdi et al. disclose zirconium, yttrium, and hafnium alone and in combination, these transition metals are not specifically selected independently or in the Examples. However, the list of possible transition metals provided by Liburdi et al. is a finite list from which one of ordinary skill in the art is able to arrive at the claimed elements of zirconium, yttrium, and hafnium without excessive experimentation. As such, it would be obvious to one of ordinary skill in the art to select zirconium, yttrium, and hafnium under the teachings of Liburdi et al. and arrive at the claimed combination of zirconium, yttrium, and hafnium alone or in combination.

Regarding the product by process limitations, the product includes coating regions or the entire coating with a distribution of the reactive elements as set forth above. Use of co-deposition to form regions containing these same elements is considered indistinguishable from the taught product as both the taught process and

that claimed result in a thorough distribution of the elements throughout the coating or the regions where they are present.

The above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Regarding claim 21, yttrium can be included as one of the transition metals interdiffused into the aluminide (column 4, lines 41-42).

Regarding claim 26, hafnium can be included as one of the transition metals interdiffused into the aluminide (column 4, line 42).

Regarding claim 27, zirconium can be included as one of the transition metals interdiffused into the aluminide (column 4, line 42).

Response to Arguments

Applicant's arguments, see the Remarks, filed 12/28/09, with respect to the double patenting rejections have been fully considered and are persuasive. These rejections have been withdrawn.

Applicant's arguments filed 12/28/09 with respect to the rejections over prior art have been fully considered but they are not persuasive.

In particular, with respect to the rejections over the '824 patent as well as those over the '594 patent Applicant argues the references fail to teach the newly added product by process limitations requiring co-deposition of the elements claimed. However, the argument fails to differentiate the end product from those taught by the references. More particularly, if the aluminum and the reactive element are co-deposited such that a coating region or the entire coating includes the reactive element, the structure obtained as claimed is expected to be equivalent to the structure taught by the references which also result in coating regions or the entire coating with a distribution of the reactive elements as set forth in the rejections above. Nothing in the claims or the argument presented by Applicant indicate where a structural difference between the claimed product and the products taught by the references might exist. Therefore the rejections are maintained.

Further, the above arguments establish a rationale tending to show the claimed product is the same as what is taught by the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability

is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964,966. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON S. AUSTIN whose telephone number is (571)272-8935. The examiner can normally be reached on Monday-Friday: 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron S Austin/
Primary Examiner, Art Unit 1784